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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/633,389

08/04/2003

Murray R. Harman

LUMIN-04. US

2822

7590

03/17/2005

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EXAMINER

LEPISTO, RYAN A

ART UNIT

PAPER NUMBER

2883

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/633,389

Applicant(s)

HARMAN ET AL.

Examiner

Ryan Lepisto

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-16 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 6 and 8-11 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 7, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings/Specification

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 11 (Fig. 2), 52a, 52b (Fig. 3).

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claim 10** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This claim recites the limitation "said adjustment means," there is insufficient antecedent basis for this limitation in the claim (or in claims 1, 2 or

Art Unit: 2883

6). It looks at if claim 10 was meant to depend from claim 9. For the sake of this action, the office will treat the limitations of claim 10 as they were dependent from claim 9.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-2, 5-6 and 8-11** are rejected under 35 U.S.C. 102(b) as being anticipated by **Harman (US 5,239,599)** (Harman '599). Harman '599 teaches a moving fiber optical switch (Fig. 1-4) comprising two opposed fiber supports (58, 60) spaced apart along an optical fiber axis and connected to a end of a housing (10), both supports being flexibly mounted for pivotal movement relative to the other support in direction normal to said optical fiber axis (column 3 lines 3-5, column 4 lines 9-12), two optical fibers (84, 86) fixed to support (58), one optical fiber (84a) fixed to support (60) and extending along said optical fiber axis with fibers (84, 86) having opposed fiber ends from fiber (84a) forming a fiber gap (100), the supports (58, 60) having a first relative position at which fiber ends are axially aligned, and a second relative position at which fiber ends are held out of alignment (column 4 lines 9-12), link means (34, 54, 56) connected to the flexibly mounted supports (58, 60) to move the flexibly mounted supports (58, 60) pivotally (axially) relative to said other support (either 58 or 60) by bending (or flexure) of a section of both supports (58, 60) relative the housing (10),

operating means (34) connected to the link means (54, 56) and capable of pivotal movement relative to said optical fiber axis (column 3 lines 28-38), electromagnetic actuator means (28, 30, 32) for providing said relative pivotal movement of the operating means between two orientations (column 3 lines 23-27), including a first orientation where the supports are in a first position, and a second orientation in which the supports are in a second position (column 4 lines 9-12), and adjustment means (screws, 48, 50) at one end of the housing (10) for causing the movement of the flexible mounts (58, 60) so as to adjust the width of the gap (100) by adjusting portions of the fiber positions via limitation of the movement of a lever (44) that acts on the supports (58, 60) via the rods (54, 56) (column 2 lines 61-64, column 4 lines 55-62).

4. **Claims 1-2 and 5-6** are rejected under 35 U.S.C. 102(b) as being anticipated by **Harman (US 5,757,991)** (Harman '991). Harman '991 teaches a moving fiber optical switch (Fig. 1a-b, 5) comprising two opposed fiber supports (18, 20) spaced apart along an optical fiber axis and connected to a end of a housing (48), both supports being flexibly mounted for pivotal movement and tilting relative to the other support in direction normal to said optical fiber axis (shown in Fig. 3c, column 6 lines 2-13), two optical fibers (21, 22) fixed to support (18), two optical fibers (26, 28) fixed to support (20) and extending along said optical fiber axis with fibers (21, 22) having opposed fiber ends from fibers (26, 28) forming a fiber gap (29), the supports (18, 20) having a first relative position at which fiber ends are axially aligned, and a second relative position at which fiber ends are held out of alignment (column 5 lines 7-12, 30-37), link means (10)

Art Unit: 2883

connected to the flexibly mounted supports (18, 20) to move the flexibly mounted supports (18, 20) pivotally (axially) relative to said other support (either 18 or 20) by bending (or flexure) of a section (11, 13) of both supports (18, 20) relative the housing (48), operating means (12) connected to the link means (10) and capable of pivotal movement relative to said optical fiber axis (column 7 lines 30-36), electromagnetic actuator means (not shown) for providing said relative pivotal movement of the operating means between two orientations (column 7 lines 33-35), including a first orientation where the supports are in a first position, and a second orientation in which the supports are in a second position (column 7 lines 42-49).

Allowable Subject Matter

5. **Claims 14-16** are allowed.
6. **Claims 3-4, 7 and 12-13** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: these claims are allowable over the prior art of record because the latter, either alone or in combination, does not disclose nor render obvious a pair of crossed cantilevers, tilting of the second support in a direction perpendicular to the movement provided by the pivotal movement of the support, adjustment means for adjusting the tilting by a screw causing distortion of the mount support or a leaf spring for flexing towards an end of the housing, in combination with the rest of the claimed limitations.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

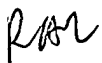
- Harman (US 5,727,099) teaches an alignment controlling system using flexible mounts and screw adjustments.
- Chang et al (US 6,044,186) and Rosete et al (US 6,385,365 B1) teach a fiber switching apparatus comprising a pivoting mount and electromagnetic actuating means.
- Takahashi (US 6,144,782) teaches a fiber switching apparatus comprising a motor actuator to move a support that aligns optical fibers.
- Thurenus et al (US 4,610,504), Oguey et al (US 4,645,294) and Lemonde (US 4,759,597) teaches mechanical optical switches using moving platforms.
- Lee (US 4,834,488), Lee (US 4,896,935), Valette et al (US 5,078,514) and Delapierre (US 5,278,692) teaches optical switches comprising actuating means to rotate platforms containing fibers.
- Lee (US 4,911,520) teaches an optical switch comprising a movable cantilever for moving a fiber up and down to align to two fibers across a gap.
- Nishiyama et al (US 6,169,826 B1), Bona et al (US 2003/0123787), Hagood et al (US 6,738,539 B2) and Kubby (US 2004/0184720 A1) teaches different types of flexing supports used to align optical fibers for switching purposes.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

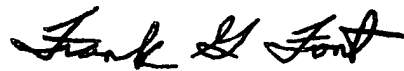
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ryan Lepisto

Art Unit 2883

Date: 3/1/05



Frank Font

Supervisory Patent Examiner

Technology Center 2800